

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

EPA REGION 8 QA DOCUMENT REVIEW CROSSWALK

QAPP/FSP/SAP for: <i>(check appropriate box)</i>	Entity <i>(grantee, contract, EPA AO, EPA Program, Other)</i>	Regulatory Authority and/or Funding Mechanism	___ 2 CFR 1500 for Grantee/Cooperative Agreements ___ 48 CFR 46 for Contracts ___ Interagency Agreement (FFA, USGS,) ___ EPA/Court Order ___ EPA Program Funding ___ EPA Program Regulation ___ EPA CIO 2105
<input type="checkbox"/> GRANTEE <input type="checkbox"/> CONTRACTOR <input type="checkbox"/> EPA <input type="checkbox"/> Other	Montana Bureau of Mines and Geology		
Document Title <i>[Note: Title will be repeated in Header]</i>	2019 Final Draft BMFOU Private Well Quality Assurance Project Plan		
QAPP/FSP/SAP Preparer	Montana Bureau of Mines and Geology		
Period of Performance <i>(of QAPP/FSP/SAP)</i>	2019-2020	Date Submitted for Review	1/31/19
EPA Project Officer EPA Project Manager	Nikia Greene	PO Phone # PM Phone #	406-457-5019
QA Program Reviewer or Approving Official	Nikia Greene	Date of Review	4/23/19

Documents Submitted for QAPP Review (QA Reviewer must complete):

1. QA Document(s) submitted for review:

QA Document	Document Date	Document Stand-alone	Document with QAPP
QAPP	1/31/19	Yes / No	
FSP		Yes / No	Yes / No
SAP		Yes / No	Yes / No
SOP(s)			Yes / No

2. WP/SOW/TO/PP/RP Date _____
WP/SOW/TO/RP Performance Period _____

3. QA document consistent with the:
 WP/SOW/PP for grants? Yes / No
 SOW/TO for contracts? Yes / No

4. QARF signed by R8 QAM Yes / No / NA
Funding Mechanism IA / contract / grant / NA
Amount _____

Notes for Document Submittals:

- A QAPP written by a Grantee, EPA, or Federal Partner must include for review: Work Plan (WP) / Statement of Work (SOW) / Program Plan (PP) / Research Proposal (RP) and funding mechanism
- A QAPP written by Contractor must include for review:
 - Copy of Task Order Work Assignment/SOW
 - Reference to a hard or electronic copy of the contractor's approved QMP
 - Copy of Contract SOW if no QMP has been approved
 - Copy of EPA/Court Order, if applicable
 - The QA Review must determine (with the EPA CO or PO) if a QARF was completed for the environmental data activity described in the QAPP.
- Field Sampling Plan (FSP) and/or Sampling & Analyses Plan (SAP) must include the Project QAPP or must be a stand-alone QA document that contain all QAPP required elements (Project Management, Data Generation/Acquisition, Assessment and Oversight, and Data Validation and Usability).
 - SOPs must be submitted with a QA document that contains all QAPP required elements.

Summary of Comments *(highlight significant concerns/issues):*

1. See note 3a for document submittals above. There is no need to refer to "Sampling and Analysis Plan" or "SAP". Just use "QAPP". Please revise globally in the document. MBMG made the noted changes, 11/5/18. EPA: Comment addressed (3/25/19).

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

2. Please include a section number in each of the cells in the "Page/Section" column below. EPA: Comment addressed (3/25/19).
3. The Montana Bureau of Mines and Geology must address the comments in the Summary of Comments, as well as those identified in the Comment section(s) that includes a "Response (date)" and Resolved (date)".

Element	Acceptable Yes/No/NA	Page/ Section	Comments
A. Project Management			
A1. Title and Approval Sheet			
a. Contains project title	Yes	Page ii	EPA: No comments.
b. Date and revision number line (for when needed)	Yes		EPA: Add the following at the end of the second paragraph of this section: "...2009 work plan for the site (AR 2009). The QAPP will be reviewed and updated, if necessary, on an annual basis." MBMG made requested changes, 11/5/18. EPA: Comment addressed (3/25/19).
c. Indicates organization's name	Yes		EPA: No comments.
d. Date and signature line for organization's project manager	Yes		EPA: No comments.
e. Date and signature line for organization's QA manager	Yes		EPA: A QA manager needs to be designated. This person should not be the project manager and should be independent from the execution of the project. MBMG added Madeline Gotkowitz as QA manager, 11/5/18. EPA: Comment addressed (3/25/19).
f. Other date and signatures lines, as needed	Yes		EPA: No comments.
A2. Table of Contents			
a. Lists QA Project Plan information sections	Yes	Pages iii - vi	EPA: No comments.
b. Document control information indicated	Yes		EPA: No comments.
A3. Distribution List			
Includes all individuals who are to receive a copy of the QA Project Plan and identifies their organization	Yes	Page 1	EPA: No comments.
A4. Project/Task Organization			
a. Identifies key individuals involved in all major aspects of the project, including contractors	Yes	Section A4 Pages 2 - 4	EPA: No comments.
b. Discusses their responsibilities	Yes		EPA: No comments.
c. Project QA Manager position indicates independence from unit generating data	Yes		EPA: The MBMG QA manager should be independent from the execution of the project. MBMG added Madeline Gotkowitz as QA manager, 11/5/18. EPA: Comment addressed (3/25/19).

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

d. Identifies individual responsible for maintaining the official, approved QA Project Plan	Yes		EPA: No comments.
e. Organizational chart shows lines of authority and reporting responsibilities	Yes		EPA: Provide an organizational chart specific to the private well monitoring project. Ensure the organizational chart shows the roles of EPA, DEQ, and MBMG QA manager. MBMG modified organization chart, 11/5/18. EPA: Comment addressed (3/27/19).
A5. Problem Definition/Background			
a. States decision(s) to be made, actions to be taken, or outcomes expected from the information to be obtained	Yes	Section A5 Pages 4 - 5	EPA: No comments.
b. Clearly explains the reason (site background or historical context) for initiating this project	Yes		EPA: No comments.
c. Identifies regulatory information, applicable criteria, action limits, etc. necessary to the project	Yes		EPA: No comments.
A6. Project/Task Description			
a. Summarizes work to be performed, for example, measurements to be made, data files to be obtained, etc., that support the project=s goals	Yes	Section A6 Page 5	EPA: No comments.
b. Provides work schedule indicating critical project points, e.g., start and completion dates for activities such as sampling, analysis, data or file reviews, and assessments	Yes	Page 5	EPA: No comments.
c. Details geographical locations to be studied, including maps where possible	Yes		EPA: No comments.
d. Discusses resource and time constraints, if applicable	Yes	Page 6	EPA: No comments.
A7. Quality Objectives and Criteria			
a. Identifies - performance/measurement criteria for all information to be collected and acceptance criteria for information obtained from previous studies, - including project action limits and laboratory detection limits and - range of anticipated concentrations of each parameter of interest	Yes	Section A7 Pages 6 - 7	EPA: No comments.
b. Discusses precision	Yes	Pages 7 - 10	EPA: No comments.
c. Addresses bias	Yes		EPA: No comments.
d. Discusses representativeness	Yes		EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

e. Identifies the need for completeness	Yes		EPA: No comments.
f. Describes the need for comparability	Yes		EPA: No comments.
g. Discusses desired method sensitivity	Yes		EPA: No comments.
A8. Special Training/Certifications			
a. Identifies any project personnel specialized training or certifications	Yes	Page 10	EPA: No comments.
b. Discusses how this training will be provided	Yes		EPA: No comments.
c. Indicates personnel responsible for assuring training/certifications are satisfied	Yes		EPA: No comments.
d. identifies where this information is documented	Yes		EPA: No comments.
A9. Documentation and Records			
a. Identifies report format and summarizes all data report package information	Yes	Page 11	EPA: No comments.
b. Lists all other project documents, records, and electronic files that will be produced	Yes		EPA: No comments.
c. Identifies where project information should be kept and for how long	Yes		EPA: No comments.
d. Discusses back up plans for records stored electronically	Yes		EPA: No comments.
e. States how individuals identified in A3 will receive the most current copy of the approved QA Project Plan, identifying the individual responsible for this	Yes		EPA: No comments.
B. Data Generation/Acquisition			
B1. Sampling Process Design (Experimental Design)			
a. Describes and justifies design strategy, indicating size of the area, volume, or time period to be represented by a sample	Yes	Pages 11 - 13	EPA: No comments.
b. Details the type and total number of sample types/matrix or test runs/trials expected and needed	Yes		EPA: No comments.
c. Indicates where samples should be taken, how sites will be identified/located	Yes		EPA: Add text describing how the private wells were identified for sampling. MBMG added text-describing use of GWIC for identifying well, 11/5/18. EPA: Comment addressed (3/27/19).
d. Discusses what to do if sampling sites become inaccessible	Yes		EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

e. Identifies project activity schedules such as each sampling event, times samples should be sent to the laboratory, etc.	Yes		EPA: No comments.
f. Specifies what information is critical and what is for informational purposes only	Yes		EPA: No comments.
g. Identifies sources of variability and how this variability should be reconciled with project information	Yes		EPA: No comments.
B2. Sampling Methods			
a. Identifies all sampling SOPs by number, date, and regulatory citation, indicating sampling options or modifications to be taken	Yes	Pages 14 - 16	EPA: No comments.
b. Indicates how each sample/matrix type should be collected	Yes		EPA: No comments.
c. If in situ monitoring, indicates how instruments should be deployed and operated to avoid contamination and ensure maintenance of proper data	Yes		EPA: No comments.
d. If continuous monitoring, indicates averaging time and how instruments should store and maintain raw data, or data averages	N/A		N/A
e. Indicates how samples are to be homogenized, composited, split, or filtered, if needed	Yes		EPA: No comments.
f. Indicates what sample containers and sample volumes should be used	Yes		EPA: No comments.
g. Identifies whether samples should be preserved and indicates methods that should be followed	Yes		EPA: No comments.
h. Indicates whether sampling equipment and samplers should be cleaned and/or decontaminated, identifying how this should be done and by-products disposed of	Yes		EPA: No comments.
i. Identifies any equipment and support facilities needed	Yes		EPA: No comments.
j. Addresses actions to be taken when problems occur, identifying individual(s) responsible for corrective action and how this should be documented	Yes		EPA: No comments.
B3. Sample Handling and Custody			
a. States maximum holding times allowed from sample collection to extraction and/or analysis for each sample type and, for in-situ or continuous monitoring, the maximum time before retrieval of information	Yes	Pages 16 - 17	EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

b. Identifies how samples or information should be physically handled, transported, and then received and held in the laboratory or office (including temperature upon receipt)	Yes		EPA: No comments.
c. Indicates how sample or information handling and custody information should be documented, such as in field notebooks and forms, identifying individual responsible	Yes		EPA: No comments.
d. Discusses system for identifying samples, for example, numbering system, sample tags and labels, and attaches forms to the plan	Yes		EPA: No comments.
e. Identifies chain-of-custody procedures and includes form to track custody	Yes		EPA: No comments.
B4. Analytical Methods			
a. Identifies all analytical SOPs (field, laboratory and/or office) that should be followed by number, date, and regulatory citation, indicating options or modifications to be taken, such as sub-sampling and extraction procedures	Yes	Page 17	EPA: No comments.
b. Identifies equipment or instrumentation needed	Yes		EPA: Briefly describe the equipment that will be used to analyze the samples. MBMG added description of laboratory equipment, 1/30/19. EPA: Comment addressed (3/27/19).
c. Specifies any specific method performance criteria	Yes		EPA: No comments.
d. Identifies procedures to follow when failures occur, identifying individual responsible for corrective action and appropriate documentation	Yes		EPA: No comments.
e. Identifies sample disposal procedures	Yes		EPA: No comments.
f. Specifies laboratory turnaround times needed	Yes		EPA: No comments.
g. Provides method validation information and SOPs for nonstandard methods	N/A		N/A
B5. Quality Control			
a. For each type of sampling, analysis, or measurement technique, identifies QC activities which should be used, for example, blanks, spikes, duplicates, etc., and at what frequency	Yes	Page 18	EPA: No comments.
b. Details what should be done when control limits are exceeded, and how effectiveness of control actions will be determined and documented	Yes		EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

c. Identifies procedures and formulas for calculating applicable QC statistics, for example, for precision, bias, outliers and missing data	Yes		EPA: No comments.
B6. Instrument/Equipment Testing, Inspection, and Maintenance			
a. Identifies field and laboratory equipment needing periodic maintenance, and the schedule for this	Yes	Page 18	EPA: No comments.
b. Identifies testing criteria	Yes		EPA: No comments.
c. Notes availability and location of spare parts	Yes		EPA: No comments.
d. Indicates procedures in place for inspecting equipment before usage	Yes		EPA: No comments.
e. Identifies individual(s) responsible for testing, inspection and maintenance	Yes		EPA: No comments.
f. Indicates how deficiencies found should be resolved, re-inspections performed, and effectiveness of corrective action determined and documented	Yes		EPA: No comments.
B7. Instrument/Equipment Calibration and Frequency			
a. Identifies equipment, tools, and instruments that should be calibrated and the frequency for this calibration	Yes	Page 19	EPA: No comments.
b. Describes how calibrations should be performed and documented, indicating test criteria and standards or certified equipment	Yes		EPA: No comments.
c. Identifies how deficiencies should be resolved and documented	Yes		EPA: No comments.
B8. Inspection/Acceptance for Supplies and Consumables			
a. Identifies critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials	Yes	Page 19	EPA: No comments.
b. Identifies the individual(s) responsible for this	Yes		EPA: No comments.
B9. Use of Existing Data (Non-direct Measurements)			
a. Identifies data sources, for example, computer databases or literature files, or models that should be accessed and used	Yes	Page 19	EPA: No comments.
b. Describes the intended use of this information and the rationale for their selection, i.e., its relevance to project	Yes		EPA: No comments.
c. Indicates the acceptance criteria for these data sources and/or models	Yes		EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

d. Identifies key resources/support facilities needed	Yes		EPA: No comments.
e. Describes how limits to validity and operating conditions should be determined, for example, internal checks of the program and Beta testing	Yes		EPA: No comments.
B10. Data Management			
a. Describes data management scheme from field to final use and storage	Yes	Page 20	EPA: No comments.
b. Discusses standard record-keeping and tracking practices, and the document control system or cites other written documentation such as SOPs	Yes		EPA: No comments.
c. Identifies data handling equipment/procedures that should be used to process, compile, analyze, and transmit data reliably and accurately	Yes		EPA: No comments.
d. Identifies individual(s) responsible for this	Yes		EPA: No comments.
e. Describes the process for data archival and retrieval	Yes		EPA: No comments.
f. Describes procedures to demonstrate acceptability of hardware and software configurations	Yes		EPA: No comments.
g. Attaches checklists and forms that should be used	Yes		EPA: No comments.
C. Assessment and Oversight			
C1. Assessments and Response Actions			
a. Lists the number, frequency, and type of assessment activities that should be conducted, with the approximate dates	Yes	Page 21	EPA: No comments.
b. Identifies individual(s) responsible for conducting assessments, indicating their authority to issue stop work orders, and any other possible participants in the assessment process	Yes		EPA: No comments.
c. Describes how and to whom assessment information should be reported	Yes		EPA: No comments.
d. Identifies how corrective actions should be addressed and by whom, and how they should be verified and documented	Yes		EPA: No comments.
C2. Reports to Management			
a. Identifies what project QA status reports are needed and how frequently	Yes	Page 21	EPA: No comments.
b. Identifies who should write these reports and who should receive this information	Yes		EPA: No comments.

2019 Final Draft BMFOU Private Well Quality Assurance Project Plan

D. Data Validation and Usability			
D1. Data Review, Verification, and Validation			
Describes criteria that should be used for accepting, rejecting, or qualifying project data	Yes	Page 22	
D2. Verification and Validation Methods			
a. Describes process for data verification and validation, providing SOPs and indicating what data validation software should be used, if any	Yes		EPA: The Clark Fork River sites have an established data validation method. Please use this for data validation. ARCO, 1992c. <i>Clark Fork River Superfund Site Investigations Data Management/Data Validation Plan</i> , ARCO June 1992. ARCO, 2000a. <i>Clark Fork River Superfund Site Investigations Data Management/Data Validation Plan Addendum</i> , ARCO June 2000. MBMG modified section to describe data validation process following CFR guidance and MBMG procedures, 1/30/19. EPA: EPA has prepared for MBMG's use a Pilot Data Summary Report showing the format typically used by others on CFRSSI sites. Additionally, TREC has a data validation SOP that MBMG can look at. MBMG should review these materials and make any needed adjustments in their final version of the 2019 QAPP (4/8/19).
b. Identifies who is responsible for verifying and validating different components of the project data/information, for example, chain-of-custody forms, receipt logs, calibration information, etc.	Yes		EPA: No comments.
c. Identifies issue resolution process, and method and individual responsible for conveying these results to data users	Yes		EPA: No comments.
d. Attaches checklists, forms, and calculations	Yes		EPA: No comments.
D3. Reconciliation with User Requirements			
a. Describes procedures to evaluate the uncertainty of the validated data	Yes		EPA: No comments.
b. Describes how limitations on data use should be reported to the data users	Yes		EPA: Describe how limitations on the use of the data will be reported. MBMG added discussion on data limitations, 1/30/19. EPA: Comment addressed (3/27/19).